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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/487,287	01/19/2000	Andrea De Toffol	8907-9021	2986

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EXAMINER

FERGUSON, LAWRENCE D

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 06/16/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

AS/6

Office Action Summary

Application No.

09/487,287

Applicant(s)

DE TOFFOL ET AL.

Examiner

Lawrence D Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment mailed August 16, 2002.

Claims 1 was amended and claims 1-16 are pending.

Claim Rejections – 35 USC § 103(a)

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashima et al. (U.S. 5,442,523) in view of EP 0724181.

4. Kashima discloses a backlighting device for use with display panels that has a light conducting plate and a light source provided in proximity to the end portion of one or both sides of the light conducting plate (column 2, lines 16-20) where backlight devices of displays are analogous to luminous signs. The panel of Kashima can be made by molding or casting (column 6, lines 48-49) having light diffusing capability and all surfaces of the light conducting plate being covered with a light reflecting plate or film except at least the end portion of the side and on the exit face (column 2, lines 20-26). The reference discloses single lamp edge lighting, dual lamp edge lighting and edge lighting (column 2, lines 30-48) comprising barium sulfate (column 3, lines 9-10) which

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can be added to the conducting layer with light diffusing areas (column 3, line 32).)

Kashima discloses the light conducting plate made of polymethyl methacrylate PMMA having a thickness of 2mm (column 7, lines 64-66) and which are used as the thermoplastic layer with a commercial polycarbonate sheet 360 μ m thick (column 10, line 33) where polycarbonate is known to be a thermoplastic material. Figure 1(a) shows a composite panel having more than one edge that is used to light the referenced invention. Kashima discloses the method of shaping the sheets including molding and casting (column 6, lines 46-49). Kashima further discloses the light conducting plate has a thickness of 3mm (column 10, lines 42-47). A panel wherein the composite is prepared by coextrusion of the base sheet of thermoplastic polymer and of the diffusing layer of thermoplastic polymer or by compression molding of the thermoplastic polymer layer containing barium sulfate obtained by extrusion or casting is a product by process limitation. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. The base sheet of Kashima is capable of containing particles of substances diffusing light, both of polymeric and inorganic type. Kashima does not explicitly disclose the composite area being greater than 600 cm². It would have been obvious to the average artisan for the area to be as instantly claimed since such a modification would have involved a mere change in the size of a

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component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237. Kashima does not disclose the diffusing light layer thickness, or amount by weight or particle size of barium sulfate.

EP '181 teaches a composite panel with a light reflective sheet in a back light unit under a transparent light guide plate with improved luminance (abstract) with a light diffusing sheet (page 4, line 17) having an average particle size of the inorganic filler of 0.1 to 7 μm and is in the range of 100 to 300 parts by weight, where the inorganic filler is barium sulfate (page 6, lines 20-31) and the amount of additive is 0.01 to 5 parts by weight (page 6, lines 50-51). EP '181 teaches the light diffusion sheet having a thickness of 113 μm (page 11, lines 14 and 54-55). Kashima and EP '181 are analogous art because they are from the same field of backlighting devices. It would have been obvious to one of ordinary skill in the art to include the thickness of the light diffusing layer, the amount by weight and average particle size of barium sulfate in the composite panel of Kashima because EP '181 teaches the sizes are conventional within the art. The thickness, amount used and particle size each directly affect how much light is being diffused. Therefore each of these features are optimizable. One of ordinary skill would understand how to adjust the amounts and particle size of barium sulfate based on the amount of light desired to be diffused.

5. Claim 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's remarks regarding rejection made under 35 U.S.C. 103(a) as being unpatentable over Kashima et al. (U.S. 5,442,523) in view of EP 0724181 have been considered but have been found unpersuasive. Applicant argues Kashima, whether taken alone or in view of '181, does not render the claimed invention obvious. Examiner respectfully disagrees because Kashima discloses a backlighting device for use with display panels that has a light conducting plate and a light source provided in proximity to the end portion of one or both sides of the light conducting plate (column 2, lines 16-20) where backlight devices of displays are analogous to luminous signs. Applicant notes the teachings of Kashima do not meet the requirement of having a thickness of at least 3mm. Kashima discloses the light conducting plate has a thickness of 3mm (column 10, lines 42-47), therefore meeting this limitation of instant claim 1. Applicant argues the polycarbonate sheet of Kashima must possess multiple parallel linear prisms and an enhancing means, where amended claim 1 recites 'consisting essentially of' where this aspect of Kashima would not be included in the presently claimed device. Examiner is not persuaded by this argument because column 10, lines 31-41, is an additional teaching of Kashima that is not critically essential to the cited art. The parallel linear prisms are mentioned in comparative example 4, which is not critical to the functioning of the invention. Furthermore, although amended claim 1 recites 'consisting essentially of,' dependent claims 2-16 of the instant application further comprise

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additional features of the thermoplastic panel similar to the Kashima reference.

Applicant argues Kashima does not disclose or suggest a backlighting device having areas greater than 600cm^2 . Although Kashima does not explicitly disclose the composite area being greater than 600 cm^2 , it would have been obvious to the average artisan for the area to be as instantly claimed since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. Applicant argues the light conducting plate cannot contain light diffusing particles because by definition the pate would then be a 'light-diffusing pate' rather than a light-conducting plate and none of the sheets of Kashima is stated as being capable of containing particles of substances that can diffuse light. Examiner is not persuaded by this argument because Kashima discloses the light conducting pate having light diffusing capability (column 2, lines 20-21) which was mentioned on page 2 of the previous Office Action rejection of Paper No. 13. Applicant argues it is observed that Kashima does not disclose diffusing the diffusing material into the sheet. Applicant claims a diffused sheet, not diffusing the material into the sheet. Kashima discloses a diffused sheet. Diffusing material into a sheet would be held to a product by process claim limitation, which is given little patentable weight in a product claim. Applicant argues the cited art would *most likely* result in uneven light distribution. This argument is of little consequence because Applicant lacks support for this ascertainment. Applicant further argues diffusion is obtained by roughening the surface of the light conducting plate, which is held to a product by process limitation. "Even though product-by-process claims are limited by

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and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Applicant argues Kashima does not disclose a light diffusing film placed on a light conducting panel. Examiner is not persuaded by this argument because Kashima discloses a light diffusing material (film) applied over the surface of the light conducting plate (column 8, lines 7-9). The method of applying the material is of little consequence because the final product of Kashima reads on the structure of the instantly claimed invention, absent any evidence to the contrary. Applicant argues EP '181 does not disclose an inorganic filler in the diffusing sheet but in the reflecting sheet. Examiner disagrees with this argument because EP '181 teaches a light diffusion sheet formed of polyethylene terephthalate (PET) (page 11, line 14) where the PET (light diffusion sheet) contains inorganic filler (page 14, line 54).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.



Lawrence D. Ferguson
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

